

REMARKS

Claims 1-24 are now present in this application.

Claims 1 and 12 have been amended, and claims 21-24 have been added. Reconsideration of the application, as amended, is respectfully requested.

Claims 1-8, 10-17 and 19-20 stand rejected under 35 USC 103 as being unpatentable over CHEN, U.S. Patent 5,945,765 in view of MIYAZAWA et al., U.S. Patent 6,166,470. This rejection is respectfully traversed.

Claims 9 and 18 stand rejected under 35 USC 103 as being unpatentable over CHEN and MIYAZAWA et al., and further in view of HASEBE, U.S. Patent 4,899,075. This rejection is respectfully traversed.

Claim Amendments

It is noted that claims 1 and 12 have been amended to include the limitations "with the tops of the second inner teeth extending to the same plane of the first bottom plate and the tops of the first inner teeth extending to the same plane of the second bottom plate." Support for these limitations can be found in Figs. 2a and 2b of the present application, for example. Applicants submit that no new matter has been added.

Also, claims 21-24 have been added to more clearly define the present invention. Support for these limitations can be found in

Figs. 2a-2c, 3 and 5a-5b of the present application, for example. Applicants submit that no new matter has been added.

35 U.S.C. §103(a) Rejections

The miniature motor structure of the present invention has a first coil seat 100 with a plurality of first outer teeth 120 and first inner teeth 110 and a second coil seat 200 with a plurality of second outer teeth 220 and second inner teeth 210. Each of the second inner teeth 220 interposed between the first inner teeth 120. Each top of the second inner teeth 210 extends to the same plane of the first bottom plate and each top of the first inner teeth 110 extends to the same plane of the second bottom plate to form a post (see page 6, lines 8-10 and Figs. 2a and 2b, for example). The elements of the miniature motor structure can be reduced, and the motor structure can be miniatured and provide a closed and smooth magnetic conduction. Accordingly, claims 1 and 12 have been amended to include the limitations "each of said second inner teeth interposed between said adjacent first inner teeth with the tops of the second inner teeth extending to the same plane of the first bottom plate and the tops of the first inner teeth extending to the same plane of the second bottom plate."

In contrast, CHEN teaches an interior stator assembly having a coil assembly 3 and two silicon plates 4, 5. The coil assembly 3 has a sheave 30 with two end walls 31,32 and a bore 33. In CHEN's

arrangement, the insert sheets 43,53 of the plates 4,5 are inserted in the grooves 311, 321 to engage with each other. **Because the grooves 311, 321 of the sheave 30 are not through holes, the inserted sheets 43,53 are impossible to reach the same plane of the opposite end wall** when the coil assembly 3 and two silicon plates 4, 5 are assembled together. Thus, none of the references, when taken alone or in combination, teaches or suggests that "each of said second inner teeth interposed between said adjacent first inner teeth" and "the tops of the second inner teeth extending to the same plane of the first bottom plate and the tops of the first inner teeth extending to the same plane of the second bottom plate." The secondary references used by the Examiner fail to overcome the above-noted deficiencies of the primary reference.

It is therefore respectfully submitted that the miniature motor structure of independent claims 1 and 12, as well as their dependent claims, is neither taught nor suggested by the prior art utilized by the Examiner. Accordingly, reconsideration and withdrawal of the 35 USC 103 rejections are respectfully requested.

With regard to independent claims 21 and 24, it is respectfully noted that these claims include the limitations "said first inner teeth and said first outer teeth are alternately arranged" and "each of first inner tooth is arranged to partly trail behind/exceed the corresponding first outer tooth" (see Figs. 2a-2c, 3, 5a-5b, for example).

Unlike the present invention, the insert sheets 43,53 and the exciting sheets 45,55 of CHEN's arrangement are radially disposed in the same lines. Thus, none of the references, when taken alone or in combination, teaches or suggests that "said first inner teeth and said first outer teeth are alternately arranged" and "each of first inner tooth is arranged to partly trail behind/exceed the corresponding first outer tooth." The secondary references used by the Examiner would fail to overcome the above-noted deficiencies of the primary reference.

It is therefore respectfully submitted that the miniature motor structure of independent claims 21 and 24, as well as their dependent claims, would also not be taught or suggested by the prior art utilized by the Examiner

Reconsideration and withdrawal of all rejections are therefore respectfully requested. Favorable reconsideration and an early Notice of Allowance are earnestly solicited.

In the event the Examiner does not consider this application to be in condition for allowance, it is respectfully requested that this Amendment be entered for the purposes of Appeal. This Amendment should overcome the current grounds of rejection and therefore simplify the issues for Appeal. Nonetheless, it should be unnecessary to proceed to Appeal because the instant application should now be in condition for allowance.

In the event that any outstanding matters remain in this application, the Examiner is invited to contact the undersigned at (703) 205-8000 in the Washington, D.C. area.

Attached hereto is a marked-up version of the changes made to the application by this Amendment.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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KM/asc
0941-0361P

Attachment: Version with Markings to Show Changes Made

(Rev. 02/20/02)

VERSION WITH MARKINGS TO SHOW CHANGES MADEIN THE CLAIMS:

The claims have been amended as follows:

1. (Twice Amended) A miniature motor structure, comprising:
 - a stator, further comprising:
 - a first coil seat, including a first bottom plate, a plurality of first outer teeth, a plurality of first inner teeth;
 - a coil, formed in the first coil seat;
 - a second coil seat, including a second bottom plate, a plurality of second outer teeth, a plurality of second inner teeth, said second coil seat disposed on the first coil seat, each of said second outer teeth interposed between said adjacent first outer teeth, each of said second inner teeth interposed between said adjacent first inner teeth with the tops of the second inner teeth extending to the same plane of the first bottom plate and the tops of the first inner teeth extending to the same plane of the second bottom plate;
 - a circular magnet, surrounding said stator; and
 - a shaft, passing through said stator.
12. (Twice Amended) A miniature motor structure, comprising:
 - a stator, further comprising:
 - a first coil seat, including a first bottom plate, a plurality of first outer teeth, a plurality of first inner teeth, said first bottom plate further including a first central opening, said first outer teeth protruding from said first bottom plate and surrounding an outer periphery of said first bottom plate, said first inner teeth protruding from said first bottom plate and surrounding said first central opening;
 - a coil, formed in the first coil seat;

a second coil seat, including a second bottom plate, a plurality of second outer teeth, a plurality of second inner teeth, said second coil seat disposed on the first coil seat, said second bottom plate further including a second central opening, said second outer teeth protruding from said second bottom plate and surrounding an outer periphery of said second bottom plate, said second inner teeth protruding from said second bottom plate and surrounding said second central opening, each of said second outer teeth interposed between said adjacent first outer teeth, each of said second inner teeth interposed between said adjacent first inner teeth with the tops of the second inner teeth extending to the same plane of the first bottom plate and the tops of the first inner teeth extending to the same plane of the second bottom plate;

a circular magnet, surrounding said stator;

a metal housing, surrounding said circular magnet; and

a shaft, passing through said stator.

Claims 21-24 have been added.



MS AF
REPLY UNDER
37 C.F.R. § 1.116
EXPEDITED PROCEDURE

PATENT
0941-0361P

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant: HUANG, Wen-Shi et al. Conf.: 6009
Appl. No.: 09/986,729 Group: 2834
Filed: November 9, 2001 Examiner: B. S. Mullins
For: MINIATURE MOTOR STRUCTURE

LETTER TO THE OFFICIAL DRAFTSPERSON

MS AF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

June 27, 2003

Sir:

Pursuant to the Office Action dated March 27, 2003, requiring submission of corrected formal drawings, it is respectfully submitted that the March 10, 2003 Letter to the Official Draftsperson provided the required corrected formal drawings.

However, to ensure that these corrected formal drawings are of record, attached hereto are eight (8) sheets of corrected Formal Drawings. Please substitute these corrected drawings for the corresponding six (6) sheets of drawings on file in the above-identified application.

U.S. Appl. No. 09/986,729

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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Attachments